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e) identifying the current frame as a key frame if the chromatic difference measure exceeds a chromatic threshold and the structure difference measure exceeds a structure threshold.

Subseq

8. (Twice Amended) A computerized method of extracting a key frame from a video having a plurality of frames, the method comprising:

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- a) providing a reference frame;
- b) providing a current frame different from the reference frame;
- c) determining a first difference measure between the reference frame and the current frame;
- d) determining a second difference measure between the reference frame and the current frame based, at least in part, on edges identified in each of the frames; and
- e) identifying the current frame as a key frame if the first difference measure exceeds a first threshold and the second difference measure exceeds a second threshold.

Subseq

18. (Twice Amended) A computerized method of extracting a key frame from a video having a plurality of frames, the method comprising:

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- a) providing a reference frame;
- b) providing a current frame different from the reference frame;
- c) determining a structure difference measure between the reference frame and the current frame based, at least in part, on edges identified in each of the frames; and
- d) identifying the current frame as a key frame if the structure difference measure exceeds a structure threshold.

Please add new Claim 23:

Subseq

23. A computerized method of extracting a key frame from a video having a sequence of frames, the method comprising:

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- a) providing a reference frame;
- b) providing a current frame different from the reference frame;

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- c) determining a chromatic difference measure between the reference frame and the current frame;
- d) determining a structure difference measure between the reference frame and the current frame; and
- e) identifying the current frame as a key frame if the chromatic difference measure exceeds a chromatic threshold and the structure difference measure exceeds a structure threshold, without accumulating differences between pairs of frames of the video sequence.

REMARKS

Applicant amends Claims 1, 8 and 18, and adds new Claim 23 by this paper. Claims 2-7, 9-17, and 19-22 remain unchanged and are also presented for examination. Reconsideration and allowance of all Claims 1-23 in light of the present remarks is respectfully requested.

Interview

Applicant's representative wishes to thank Examiner Anand Rao for the personal interview conducted on January 14, 2000. During the personal interview, as noted on the Interview Summary form, Examiner Rao stated that "the proposed limitations of 'a structural difference measure based on identified edges...' as in claims 1, 8, 18 and proposed claim 23 which discloses the using 'non-accumulated differences...' overcomes the art of record, and would place the application in a favorable condition for allowance if submitted as a formal response after final".

Discussion of the Claim Rejection under 35 U.S.C. § 102(e)

Claims 1-22 were rejected under 35 U.S.C. § 102(e) as being anticipated by Zhang et al. ("Zhang"), U.S. Patent No. 5,635,982.

Figures 4 and 4A depict the keyframe extraction method of Zhang. The state after state 504 (not labeled) through state 509 are not performed by Applicant. Applicant's claimed invention does not accumulate the differences between consecutive frames, as performed by Zhang at state 506, and the accumulated differences are not compared to a threshold, as